Shantou Huashan Electronic Devices Co.,Ltd.

NPN SILICON TRANSISTOR

HP50

APPLICATIONS

High Voltage And switching.

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

T_{stg}——Storage Temperature····· -65~150℃

T_j——Junction Temperature····· 150℃

P_C——Collector Dissipation (T_c=25℃) ····· 40W

V_{CBO}——Collector-Base Voltage····· 500V

V_{CEO}——Collector-Emitter Voltage····· 400V

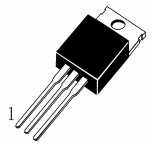
V_{EBO}——Emitter-Base Voltage····· 5V

I_C——Collector Current (DC) ····· 1A

I_C——Collector Current (Pulse) ·····2A

I_B——Base Current·····0.6A

TO-220



1—Base，B
2—Collector，C
3—Emitter, E

ELECTRICAL CHARACTERISTICS (T_a=25℃)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{CEO}	Collector-Emitter Breakdown Voltage	400			V	I_C=30mA, I_B=0
I_{CEO}	Collector Cut-off Current			1	mA	V_{CE}=300V, I_B=0
I_{EBO}	Emitter-Base Cutoff Current			1	mA	V_{EB}=5V, I_C=0
I_{CES}	Collector Cut-off Current			1	mA	V_{CE}=500V, V_{EB}=0
H_{FE} (1)	DC Current Gain	22		150		V_{CE}=10V, I_C=0.3A
H_{FE} (2)		10				V_{CE}=10V, I_C=1A
H_{FE}		20				V_{CE}=10V, I_C=0.2A,f=1MHz
$V_{CE(sat)}$	Collector- Emitter Saturation Voltage			1	V	I_C=1A, I_B=0.2A
$V_{BE(on)}$	Base-Emitter On Voltage			1.5	V	V_{CE}=10V, I_C=1A
f_T	Current Gain-Bandwidth Product	10			MHz	V_{CE}=10V,I_C=0.1A,f=2MHz
$R_{\theta JC}$				3.125	℃/W	
$R_{\theta JA}$				62.5	℃/W	

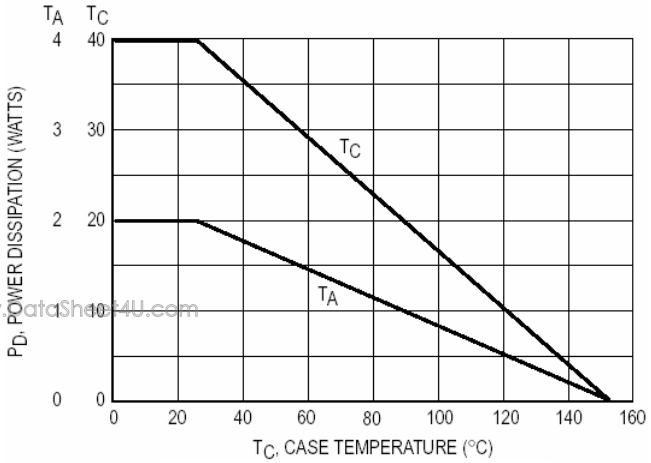


Figure 1。 Power derating

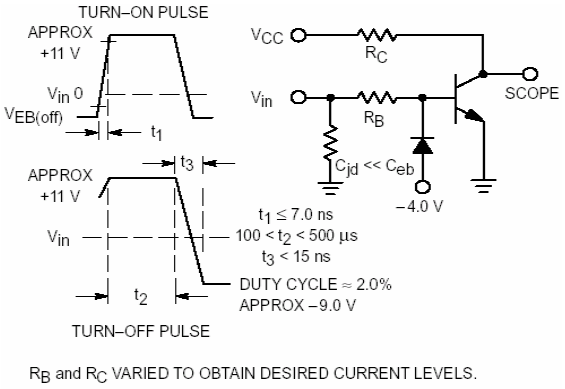


Figure 2. Switching Time Equivalent Circuit

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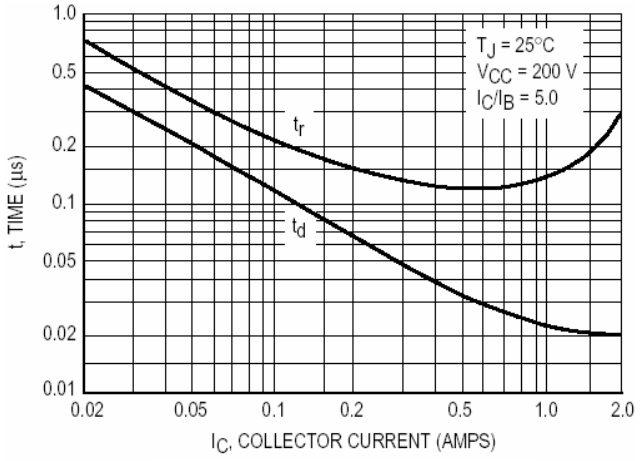


Figure 3。 Turn-On Time

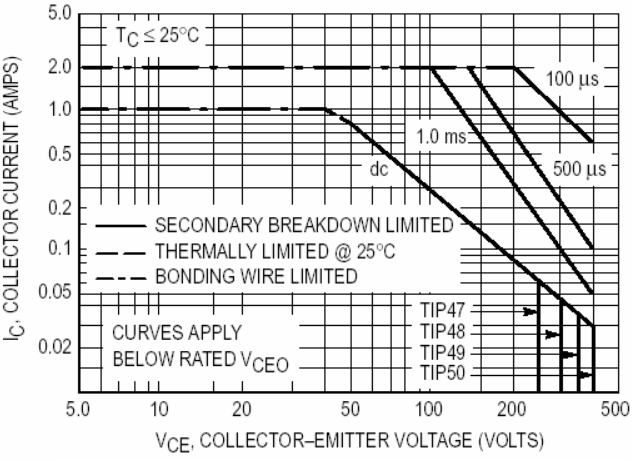


Figure 4。 Active Region Safe Operating Area

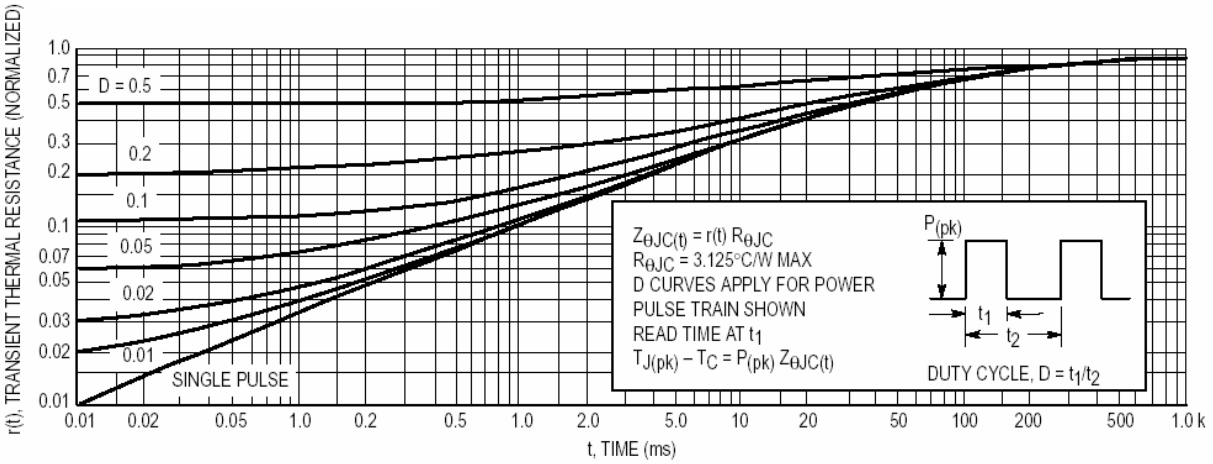


Figure 5。 Thermal Response

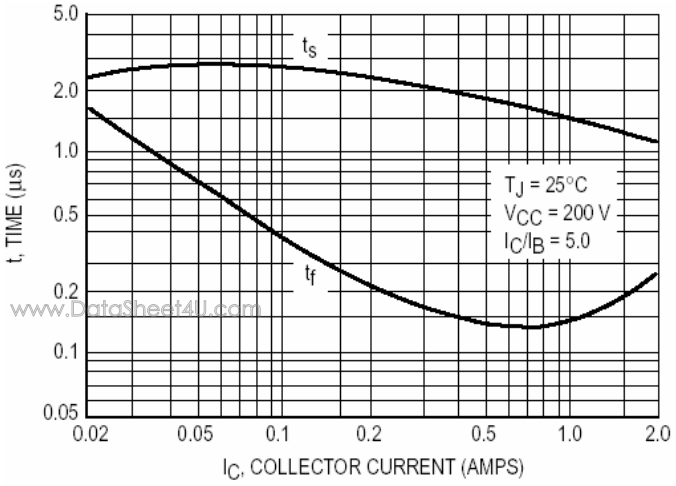


Figure 6。 Turn-Off Time

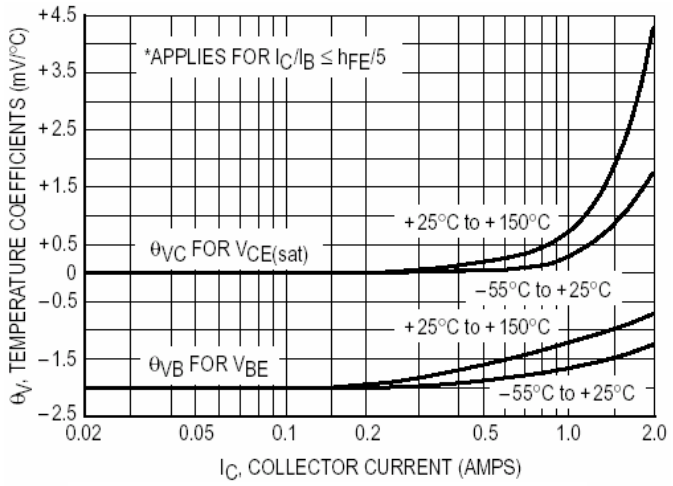
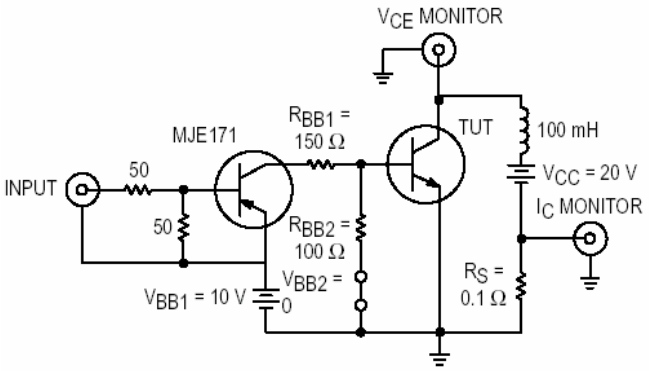


Figure 7。 Temperature Coefficients



Note A: Input pulse width is increased until I_{CM} = 0.63 A.

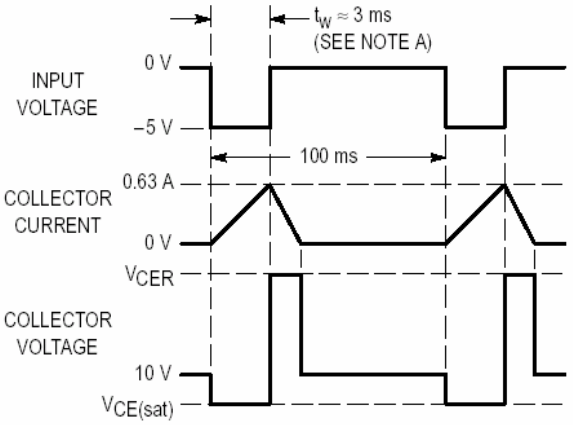


Figure 8。 Inductive Load Switching

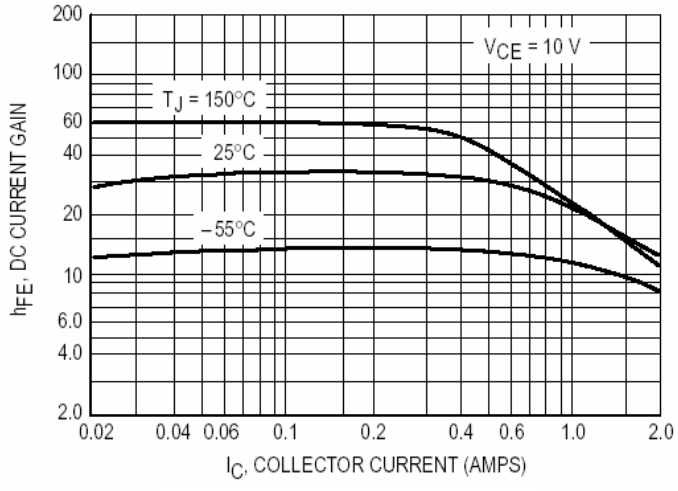


Figure 9。DC Current Gain

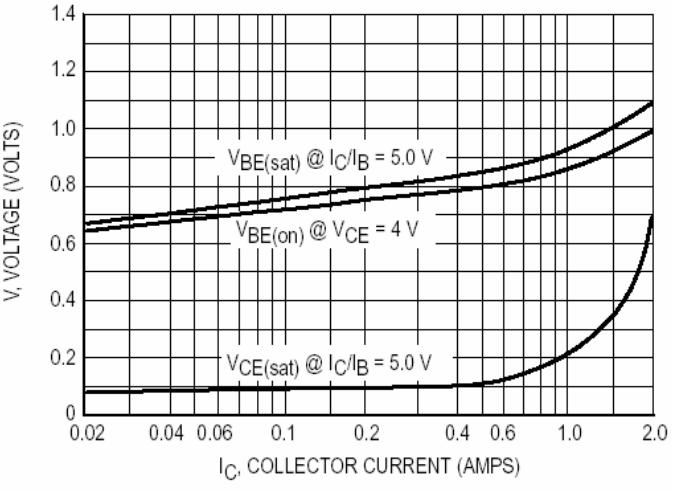


Figure 10。“ On ” Voltages